

Missouri Department of Natural Resources
Outreach and Assistance Center

Water & Wastewater Digest

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January/February 2003

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Status of Bacti Sample Holding Times

The Missouri Department of Natural Resources' Public Drinking Water Program recently hosted stakeholder meetings statewide to discuss the issue regarding bacteriological holding times. There has been an increased emphasis on getting bacteriological samples analyzed within 30 hours.

The reason behind the shorter holding times is concern that coliforms die off over time, therefore, potentially giving false negative results. In effect, sample results may indicate a sample is negative but in fact the sample contained total coliforms or E coli when collected. There are some areas of the state that have a difficult time getting samples to the state public health labs via U.S. Postal Service within 30 hours.

Historically, the state labs, and private laboratories that were certified by the state to perform bacteriological samples, have accepted bacteriological samples with a holding time up to 48 hours. The U.S. Environmental Protection Agency (EPA) published the Manual for the

Certification of Laboratories Analyzing Drinking Water, Fourth Edition, in March 1997. The fourth edition followed the guidelines in the Standard Methods for Examination of Water and Wastewater, 18th Edition, which required bacteriological samples for total coliforms, E coli and fecal coliforms not to exceed 30 hours from the time of collection to the time of analyses. When EPA audited the state labs, they were not in compliance with the 30 hour holding time requirement and were cited for the deficiency in the audit.

For a significant number of water systems that use one of the state labs, there will be a fundamental change in how their compliance samples are delivered. The Missouri Department of Health and Senior Services (DHSS) is in the process of expanding their courier service to include stops in most counties, and some counties will have multiple stops. There will usually be a stop at each county seat. Water samples that are dropped off at a DHSS courier pickup will be delivered to one of the state labs the next day. Other

options available to water systems include other couriers (UPS, Fed Ex, etc.), delivering samples themselves or using a local private lab.

Information will be sent to the water systems when the courier stops and pickup times are formalized. There will be no charge for water systems to use the courier service.

It will run Monday-Friday, but just as before, samples should not be collected and sent on Fridays or on state holidays. It is still more than a year or so before the state public health laboratories will reject any samples over 30 hours. The informal stakeholder meetings were the first step in amending the state regulations to meet the 30 hour holding times. If you have any questions or would like to inquire about the transit time your bacti samples now have, you may contact the Public Drinking Water Program at (573) 751-5331.

Safe Drinking Water Commission 2003 Schedule

The Safe Drinking Water Commission has tentatively scheduled meetings for the following dates in calendar year 2003. Meetings are usually held in Jefferson City. For more information or to be placed on a mailing list, please contact Ms. Cynthia Bowser at (573) 751-5331.

March 27
May 22
July 24
September 4
November 13



Department of Natural Resources Operator Certification and Training Unit 2003 Examination Schedule

Date	Session No.	Location(s)	Filing Deadline
March 3	7	Powder Valley Nature Center, St. Louis	February 3
March 4	8	Conference Center, 1738 E. Elm, Jefferson City	February 4
April 1	9	Southeast Regional Office, Poplar Bluff	March 1
	10	Southwest Regional Office, Springfield	
	11	Conference Center, 1738 E. Elm, Jefferson City	
May 6	12	Northeast Regional Office, Macon	April 6
	13	Kansas City Regional Office, Lee's Summit	
	14	Conference Center, 1738 E. Elm, Jefferson City	
June 2	15	Powder Valley Nature Center, St. Louis	May 2
June 3	16	Conference Center, 1738 E. Elm, Jefferson City	May 3
July 1	17	Southeast Regional Office, Poplar Bluff	June 1
	18	Southwest Regional Office, Springfield	
	19	Conference Center, 1738 E. Elm, Jefferson City	
August 5	20	Northeast Regional Office, Macon	July 5
	21	Kansas City Regional Office, Lee's Summit	
	22	Conference Center, 1738 E. Elm, Jefferson City	
September 2	23	Conference Center, 1738 E. Elm, Jefferson City	August 2
September 8	24	Powder Valley Nature Center, St. Louis	August 8
October 7	25	Southeast Regional Office, Poplar Bluff	September 2
	26	Southwest Regional Office, Springfield	
	27	Conference Center, 1738 E. Elm, Jefferson City	
November 4	28	Northeast Regional Office, Macon	October 4
	29	Kansas City Regional Office, Lee's Summit	
	30	Conference Center, 1738 E. Elm, Jefferson City	
December 1	28	Powder Valley Nature Center, St. Louis	November 1
December 2	29	Conference Center, 1738 E. Elm, Jefferson City	November 2

Regular wastewater examinations are scheduled for 9:00 a.m., and the water supply examinations are scheduled for 1:00 p.m.
unless otherwise noted on the admission letter.



Laboratory Holidays

The state health laboratory will be closed
on the following state holidays:

January 20, 2003, Martin Luther King, Jr. Day

February 12, 2003, Lincoln's Birthday

February 17, 2003, President's Day



Operator Seeking Position

20 years experience in wastewater
field to include industrial treatment.

Has chemistry major, 'A' level
wastewater certified.

For more information please con-
tact: Richard Willis (816) 931-9789.

President of QWAL Laboratory Receives 18 Months in Prison for Lab Fraud

On July 16, 2002, Terian Koester, owner/president of Quality Water Analysis Laboratories (QWAL), was sentenced by a U.S. District Court judge within the District of Kansas to 18 months in federal prison for criminally violating the Federal Clean Water Act.

He also admitted to participating in mail fraud by engaging in the fraudulent analysis of wastewater, drinking water and hazardous waste samples sent to the lab, and then charging customers for improperly obtained results. This fraud took the form of data manipulation (manually changing numbers) and by failing to provide the required quality control as represented to QWAL's customers.

In September 2001, QWAL was served with a criminal search warrant by agents of the U.S. Environmental Protection Agency Region 7 Criminal Investigation Division (EPA-CID). EPA computer and analytical personnel from the National Enforcement Investigations Center, as well as agents from the EPA Office of Inspector General, participated in the search.

Allegations of data falsification were substantiated by Koester and one of QWAL's lab managers, who admitted to EPA agents that they had falsified data in the past, dating back several years.

At the time of the search, QWAL was on a list of pre-qualified laboratories used by EPA Region 7 to perform analyses at Superfund sites. It was removed from the list in September following disclosure of the data falsifications. QWAL's customers, most of whom were notified by EPA of QWAL's problems soon after the search, included the general public, municipalities, commercial concerns and manufacturers.

QWAL, which closed on Sept. 28, 2001, operated a testing lab that provided analyses of air, drinking water, wastewater, hazardous waste and industrial mining samples.

QWAL was certified by the state of Kansas and 14 other states, which based their certification of QWAL upon Kansas' program. Kansas revoked QWAL's certification on Sept. 28, 2001, and the National Environmental Laboratory

Accreditation Conference, which is accepted by 11 states, has removed QWAL from its list of accredited labs.

In issuing its sentence following a full hearing, the court found that Koester, while serving as QWAL's president, knowingly engaged in fraudulent activities involving more than one victim, that such activities resulted in a significant financial loss to QWAL's customers (more than \$250,000), and that Koester abused a position of trust in doing so. In addition to the 18-month sentence, Koester was sentenced to two years supervised release after his prison term. Koester was also ordered not to work in or supervise an analytical laboratory during the period of supervised release.

Source: U.S. Environmental Protection Agency

Jerry Lane Receives W. Victor Weir Award

Public Drinking Water Program Director Jerry Lane was recently given the W. Victor Weir award for outstanding and devoted service to the public in the field of water and wastewater management and operation. Lane was presented the award at the annual Missouri Water and Wastewater Conference. The award came as a surprise to Lane who had been told he would be the presenter of an award, not the recipient.

The W. Victor Weir award is given annually and was established to commemorate the memory of the man whose name it bears. The award is presented for, "outstanding and devoted service to the public in the field of water or

wastewater management and operations, and for contributions therein which emulate and commemorate the accomplishments, the good humor, and the high professional standards which characterized the life of W. Victor Weir."

William Victor Weir is remembered with love and respect by all who knew him. He was past president of St. Louis County Water Co., a past president of the Missouri Water and Wastewater Conference, past president of the Missouri section American Water Works Association (AWWA) and the national AWWA.



Drinking Water Rules Update

	Status of EPA Rule	Status of State Rule
Arsenic	EPA final rule was published January 22, 2001 Federal Register (66 FR 6976). Effective date delayed until Feb. 22, 2002. Compliance date is Jan. 22, 2006. Information on EPA's rule is available on-line at http://www.epa.gov/safewater/arsenic.html .	Proposed amendments adopting EPA's Arsenic rule are expected to be published in the March 18, 2003, Missouri Register. Information on the state rule is available at http://www.dnr.state.mo.us/wpscd/pdwp/draft/Draft.htm .
Coliform Sample Holding Time	The EPA requirement for coliform sample holding time to be no more than 30 hours is found at 40 CFR 141.21(f)(3).	Stakeholder meetings have been held in each region. A draft rule and implementation plans are under development.
Design Guide Revisions (Guidance Document)	(Not applicable.)	Stakeholder workgroup meetings are being held to discuss issues identified during regional stakeholder meetings in 2002. The current draft of the revised guidance is available at http://www.dnr.state.mo.us/wpscd/pdwp/draft/Draft.htm .
Filter Backwash Recycling Rule	EPA final rule was published in the June 8, 2001, Federal Register (66 FR 31086). Information on EPA's rule is available on-line at www.epa.gov/safewater/mdbp.html .	The state rule became effective Nov. 30, 2002 (10 CSR 60-4.050). The final rule is available at: http://www.sos.state.mo.us/adrules/csr/current/10csr/10c60-4.pdf
Ground Water Rule	EPA's final rule is under development and may be promulgated in March 2003. Information on EPA's rule is available at http://www.epa.gov/safewater/gwr.html .	(EPA's rule has not been finalized.)
Long-Term 1 Enhanced Surface Water Treatment Rule	EPA final Long-Term 1 Enhanced Surface Water Treatment Rule was published in the January 14, 2002, Federal Register. Information on EPA's rule is available at http://www.epa.gov/safewater/mdbp.html .	Proposed amendments adopting LTIESWTR are expected to be published in the March 18, 2003, Missouri Register. Information on the draft rule is available at http://www.dnr.state.mo.us/wpscd/pdwp/draft/Draft.htm .
MTBE	EPA is considering proposing a secondary standard for MTBE in drinking water. The schedule has not been determined. Information on MTBE is available at http://www.epa.gov/safewater/mtbe.html .	

(continued on Page 5 ...)

Drinking Water Rules Update ...

(... continued from Page 4)

	Status of EPA Rule	Status of State Rule
Public Notification	EPA final rule was published in the May 4, 2000, Federal Register (65 FR 25982). PN handbook for utilities published and distributed on September 15, 2000. Information on the EPA rule and handbook is available on-line at http://www.epa.gov/safewater/pn.html .	A proposed rulemaking to adopt EPA's Public Notice Rule is expected to be published in the March 18, 2003, Missouri Register. Information on the draft rule is available at http://www.dnr.state.mo.us/wpscd/pdwp/draft/Draft.htm .
Radionuclides	EPA final rule was published in the December 7, 2000, Federal Register (65 FR 76708). Information on EPA's final rule is available on-line at http://www.epa.gov/safewater/radionuc.html .	The state rule became effective Nov. 30, 2002 (10 CSR 60-4.060). The final rule is available at: http://www.sos.state.mo.us/adrules/csr/current/10csr/10c60-4.pdf .
Radon	EPA's final rule is expected in fall 2003. Information on EPA's proposed rule is available on-line at http://www.epa.gov/safewater/radon.html .	(EPA's rule has not been finalized.)
Six-Year Review	The Safe Drinking Water Act requires EPA to review and revise, if appropriate all existing regulations every six years. The current schedule calls for preliminary decisions by April 2003 and final decisions by August 2003.	(EPA's rule has not been finalized.)
Source Water Protection Loans	The Safe Drinking Water Act allows up to 15% of the Drinking Water State Revolving Fund to be set aside for source water protection loans for purchase of land and easements to protect source water and for development/implementation of local source water protection petition initiatives.	Plans for development of a state rule for source water protection loans are under development.
Stage 2 D/DBP Rule and Long-Term 2 ESWTR	EPA's Stage 2 DBP and LT2ESWTR proposed rules are scheduled to be published in December 2002. Information on these rules is available on-line at http://www.epa.gov/OGWDW/ndbp.html .	(EPA's rule has not been finalized.)

Missouri Department of Natural Resources

Approved Training Courses

Please contact the course coordinator at the phone number listed below their name for more information

Course Title Course Number	Course Location Sponsored By	Course Coordinator Coord. Phone No.	First/Last Day	Number of Days	Renewal Credit Hours				
					Drinking	--Dist--	WasteW--	CAFO	
Certification Math Review 03-05-023	Neosho ERC	Autumn Sweet 800-848-8726	01/02/03 01/02/03	1	6.0	6.0	6.0	6.0	
Basic math 03-02-001	Macon MoDNR/NERO	Keith Phipps 660-385-2129	01/03/03 01/03/03	1	6.0	6.0	6.0	6.0	
Applied Wastewater Math 03-02-002	Macon MoDNR/NERO	Keith Phipps 660-385-2129	01/06/03 01/06/03	1	6.0	6.0	6.0	6.0	
Water Treatment Short School 03-05-024	Neosho ERC	Autumn Sweet 800-848-8726	01/06/03 01/10/03	5	35.0	35.0	11.5	0.0	
Basic Electricity 03-02-025	Macon ERC	Autumn Sweet 800-848-8726	01/07/03 01/08/03	2	13.0	13.0	13.0	13.0	
Distribution System Operations 03-02-057	Macon MoDNR/NERO	John Gibson 660-385-8003	01/07/03 01/28/03	7	44.0	44.0	22.5	0.0	
Utility System Safety 03-04-046	Dexter MWWC	Sandi Miller 573-761-0376	01/07/03 01/07/03	1	6.0	6.0	6.0	0.0	
Well & Pump Indepth Seminar 03-03-030	Jefferson City MWWC	Sandi Miller 573-761-0376	01/07/03 01/07/03	1	6.5	6.5	6.5	6.5	
C & D Wastewater Entry Level 03-02-003	Macon MoDNR/NERO	Keith Phipps 660-385-2129	01/08/03 01/31/03	10	21.0	8.5	60.0	6.0	
Distribution Certification 03-01-035	Cameron MoDNR/KCRO	Mark Klaus 816-622-7042	01/08/03 01/23/03	6	38.5	38.5	20.0	0.0	
Entry Level Wastewater Trmt 03-06-005	Festus MoDNR/OAC	Lorene Lindsay 816-797-7753	01/08/03 02/06/03	10	14.0	12.0	65.0	8.0	
Water Operator Training 03-03-029	Ashland MRWA	Randy Norden 573-657-5533	01/09/03 01/30/03	10	70.0	45.0	31.5	0.0	
DC/Cntr/Trouble Shooting 03-06-056	Bridgeton Control Tech	Jaime McCorkell 314-739-6050	01/10/03 01/10/03	1	6.5	6.5	6.5	6.5	
Cafo Operation Rule 03-03-115	Columbia Un of Mo	Ron Massey 573-884-7788	01/13/03 01/13/03	1	0.0	0.0	0.0	2.0	
Advanced W& WW Math 03-02-032	Slater MWWC	Sandi Miller 573-761-0376	01/14/03 01/14/03	1	6.0	6.0	6.0	6.0	
Basic Electricity 03-05-028	Branson ERC	Autumn Sweet 800-848-8726	01/14/03 01/15/03	2	13.0	13.0	13.0	13.0	
Chlorine Safety 03-05-026	Springfield ERC	Autumn Sweet 800-848-8726	01/14/03 01/14/03	1	7.5	7.5	7.5	7.5	
Cafo Operation Rule 03-03-116	Columbia Un of Mo	Ron Massey 573-884-7788	01/15/03 01/15/03	1	0.0	0.0	0.0	2.0	
Confined Space Entry & Rescue 03-05-027	Springfield ERC	Autumn Sweet 800-848-8726	01/15/03 01/16/03	2	13.0	13.0	13.0	13.0	
Intro Wastewater Lab - Part A 03-03-021	Columbia MoDNR/OAC	Lorene Lindsay 816-797-7753	01/15/03 01/22/03	4	8.0	0.0	30.0	6.0	
Cafo Operation Rule 03-03-117	Columbia Un of Mo	Ron Massey 573-884-7788	01/16/03 01/16/03	1	0.0	0.0	0.0	2.0	
Activated Sludge 03-05-157	Lebanon ERC	Autumn Sweet 800-848-8726	01/20/03 01/22/03	2	0.0	0.0	13.0	0.0	
Activated Sludge 03-05-080	Lebanon ERC	Autumn Sweet 800-848-8726	01/21/03 01/22/03	2	0.0	0.0	13.0	0.0	
1 Day Operator Seminar 03-01-036	Warrensburg MWWC	Sandi Miller 513-761-0376	01/22/03 01/22/03	1	2.0	0.0	6.5	0.0	
Cafo Operation Rule 03-03-118	Columbia Un of Mo	Ron Massey 573-884-7788	01/22/03 01/22/03	1	0.0	0.0	0.0	2.0	
Cafo Operation Rule 03-03-119	Columbia Un of Mo	Ron Massey 573-884-7788	01/23/03 01/23/03	1	0.0	0.0	0.0	2.0	
Lagoon Operation 03-05-158	Neosho ERC	Autumn Sweet 800-848-8726	01/23/03 01/23/03	1	2.5	2.5	6.5	0.0	
On Site Sewage Systems 03-02-022	Hannibal CCWWC	Elizabeth Grove 573-672-3221	01/28/03 01/28/03	1	0.0	0.0	4.5	0.0	
Operator Training Short Course 03-06-042	St Charles MWWC	Sandi Miller 573-761-0376	01/29/03 01/29/03	1	6.0	6.0	6.0	0.0	
Basic Math 03-01-081	Lee's Summit MoDNR/KCRO	David Williams 816-622-7094	01/30/03 01/30/03	1	6.0	6.0	6.0	0.0	
3 Day Distribution Seminar 03-05-031	Mt Vernon MWWC	Sandi Miller 573-761-0376	02/04/03 02/06/03	3	18.0	18.0	5.0	0.0	

Missouri Department of Natural Resources

Approved Training Courses

Please contact the course coordinator at the phone number listed below their name for more information

Course Title Course Number	Course Location Sponsored By	Course Coordinator Coord. Phone No.	First/Last Day	Number of Days	Renewal Credit Hours				
					Drinking	Dist	WasteW	CAFO	
Backflow Prevention 03-04-159	Mountain View ERC	Autumn Sweet 800-848-8726	02/04/03 02/05/03	2	14.0	14.0	14.0	0.0	
Sample Coll Drinking Water 03-01-084	Kansas City MARC	John Staples 816-474-4240	02/04/03 02/04/03	1	6.0	6.0	0.0	0.0	
12 Day Multi Level WTP Oper. 03-01-082	Lee's Summit MoDNR/KCRO	David Williams 816-622-7094	02/05/03 03/13/03	12	73.5	39.0	30.0	0.0	
12 Day Water Muti-Level 03-01-034	Maryville MoDNR/KCRO	Mark Klaus 816-622-7042	02/05/03 03/13/03	12	73.5	39.0	30.0	0.0	
Adv. Water Treatment (A&B) 03-02-004	Macon MoDNR/NERO	John Gibson 660-385-2129	02/05/03 03/20/03	14	80.0	40.0	30.0	15.0	
Intro Wastewater Lab - Part A 03-05-017	Joplin MoDNR/OAC	Lorene Lindsay 816-797-7753	02/05/03 02/12/03	4	8.0	0.0	30.0	6.0	
Haz Waste/Emerg Response 03-01-085	Kansas City MARC	John Staples 816-474-4240	02/10/03 02/12/03	3	24.0	24.0	24.0	24.0	
24 Hr. Emerg.Spill Response 03-05-160	Neosho ERC	Autumn Sweet 800-848-8726	02/11/03 02/13/03	3	15.0	15.0	15.0	0.0	
Ground Water Trmt Systems 03-04-141	Poplar Bluff Smith & CO	Joe Leahy 573-785-9621	02/11/03 02/11/03	1	6.5	4.0	6.5	0.0	
Hydraulics & Pumps 03-01-086	Kansas City MARC	John Staples 816-474-4240	02/13/03 02/13/03	1	6.0	6.0	6.0	6.0	
Backflow Prevention 03-06-161	Farmington ERC	Autumn Sweet 800-848-8726	02/18/03 02/19/03	2	14.0	14.0	14.0	14.0	
Water/Wastewater Disinfection 03-06-123	O'Fallon Bluff's Edge	Randy Johnson 573-897-4458	02/18/03 02/18/03	1	6.5	6.5	6.5	0.0	
Chlorine and Chlorine Safety 03-02-111	Silex MRWA	Randy Norden 573-657-5533	02/19/03 02/19/03	1	6.5	6.5	6.5	0.0	
Water/Wastewater Disinfection 03-06-124	Clinton Bluff's Edge	Randy Johnson 573-897-4458	02/19/03 02/19/03	1	6.5	6.5	6.5	0.0	
Water/Wastewater Math 03-01-083	Kansas City MARC	John Staples 816-474-4240	02/19/03 02/19/03	1	6.0	6.0	6.0	6.0	
Show-Me Ratemaker Workshop 03-04-129	Sikeston MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	02/20/03 02/20/03	1	4.5	4.5	4.5	0.0	
Water Supply & Treatment 03-03-037	Sedalia MWWC	Sandi Miller 513-761-0376	02/20/03 02/20/03	1	6.5	6.5	0.0	0.0	
Entry Level Wastewater Trmt 03-04-007	Poplar Bluff MoDNR/OAC	Lorene Lindsay 816-797-7753	02/25/03 03/26/03	10	14.0	12.0	65.0	8.0	
Golf Course Mgt Strategies 03-02-078	Shelbina CCWWC	Wanda Eubank 573-672-3221	02/26/03 02/26/03	1	2.0	0.0	2.0	0.0	
Intro Wastewater Lab - Part B 03-06-011	Warrenton MoDNR/OAC	Lorene Lindsay 816-797-7753	02/26/03 03/05/03	4	4.0	0.0	30.0	2.0	
Certification Math Review 03-05-162	Neosho ERC	Autumn Sweet 800-848-8726	02/27/03 02/27/03	1	6.0	6.0	6.0	6.0	
Show-Me Ratemaker Workshop 03-02-130	Macon MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	02/27/03 02/27/03	1	4.5	4.5	4.5	0.0	
Confined Space Entry 03-01-087	Kansas City MARC	John Staples 816-474-4240	03/04/03 03/04/03	1	8.0	8.0	8.0	8.0	
Land Application of Sludge 03-02-096	Macon MoDNR/NERO	Keith Phipps 660-385-2129	03/04/03 03/04/03	1	2.0	0.0	6.0	2.0	
Road Map/Steps of Analysis 03-04-113	Cape Girardeau MWWC	Sandi Miller 573-761-0376	03/06/03 03/06/03	1	6.0	6.0	6.0	6.0	
Show-Me Ratemaker Workshop 03-03-131	Sedalia MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	03/06/03 03/06/03	1	4.5	4.5	4.5	0.0	
Motor Starters, Contr Devices 03-06-049	Bridgeton Control Tech	Jaime McCorkell 314-739-6060	03/07/03 03/07/03	1	6.5	6.5	6.5	6.5	
Lagoons 03-02-100	Macon MoDNR/NERO	Keith Phipps 660-385-2129	03/10/03 03/10/03	1	2.0	0.0	6.0	6.0	
Advanced W&WW Microbiology 03-02-114	Marshall MWWC	Sandi Miller 573-761-0376	03/11/03 03/11/03	1	6.5	6.5	6.5	0.0	
Intro Wastewater Lab - Part A 03-01-020	Lee's Summit MoDNR/OAC	Lorene Lindsay 816-797-7753	03/11/03 03/19/03	4	8.0	0.0	30.0	6.0	
Irrigation,Overland Flow & Wet 03-02-099	Macon MoDNR/NERO	Keith Phipps 660-385-2129	03/11/03 03/11/03	1	1.5	0.0	6.0	3.5	

Missouri Department of Natural Resources

Approved Training Courses

Please contact the course coordinator at the phone number listed below their name for more information

<u>Course Title</u> <u>Course Number</u>	<u>Course Location</u> <u>Sponsored By</u>	<u>Course Coordinator</u> <u>Coord. Phone No.</u>	<u>First/Last Day</u>	<u>Number</u> <u>of Days</u>	<u>Renewal</u> <u>Credit Hours</u> <u>Drinking--Dist--WasteW--CAFR</u>				
Pump & Motor Maintenance 03-02-163	Macon ERC	Autumn Sweet 800-848-8726	03/11/03 03/12/03	2	15.0	15.0	15.0	15.0	
Show-Me Ratemaker Workshop 03-05-132	Springfield MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	03/13/03 03/13/03	1	4.5	4.5	4.5	4.5	0.0
AC/DC Trouble Shooting 03-06-053	Bridgeton Control Tech	Jaime McCorkell 314-739-6060	03/14/03 03/14/03	1	6.5	6.5	6.5	6.5	
1 Day Confined Space 03-02-165	Chillicothe ERC	Autumn Sweet 800-848-8726	03/18/03 03/18/03	1	7.5	7.5	7.5	7.5	
MRWA Annual Conference 03-05-146	Springfield MRWA	Randy Norden 573-657-5533	03/18/03 03/20/03	3	17.5	17.5	17.5	17.5	0.0
MRWA Annual Confr. Day 1 03-05-143	Springfield MRWA	Randy Norden 573-657-5533	03/18/03 03/18/03	1	6.5	6.5	6.5	6.5	
Pump & Motor Maintenance 03-05-164	Branson ERC	Autumn Sweet 800-848-8726	03/18/03 03/19/03	2	15.0	15.0	15.0	15.0	
MRWA Annual Confr. Day 2 03-05-144	Springfield MRWA	Randy Norden 573-657-5533	03/19/03 03/19/03	1	5.5	5.5	5.5	5.5	0.0
Disinfection 03-01-088	Kansas City MARC	John Staples 816-474-4240	03/20/03 03/20/03	1	6.0	6.0	6.0	6.0	4.0
MRWA Annual Confr. Day 3 03-05-145	Springfield MRWA	Randy Norden 573-657-5533	03/20/03 03/20/03	1	5.5	5.5	5.5	5.5	0.0
Utility System Safety 03-01-140	Higginsville MWWC	Sandi Miller 573-761-0376	03/20/03 03/20/03	1	6.0	6.0	6.0	6.0	0.0
Pre-Conference Workshop MEWA 03-03-048	Tan-Tar-A MEWA	Pam Schweitzer 636-561-9486	03/23/03 03/23/03	1	5.5	4.5	5.5	5.5	0.0
Certification Math Review 03-05-166	Neosho ERC	Autumn Sweet 800-848-8726	03/27/03 03/27/03	1	6.0	6.0	6.0	6.0	6.0
Basic Math 03-02-101	Macon MoDNR/NERO	Keith Phipps 660-385-2129	03/28/03 03/28/03	1	6.0	6.0	6.0	6.0	6.0
Applied Wastewater Math 03-02-102	Macon MoDNR/NERO	Keith Phipps 660-385-2129	03/31/03 03/31/03	1	6.0	6.0	6.0	6.0	6.0
Intro Wastewater Lab - Part B 03-05-012	Branson MoDNR/OAC	Lorene Lindsay 816-797-7753	04/01/03 04/09/03	4	4.0	0.0	30.0	30.0	2.0
Water Treatment Review 03-05-047	Willard MWWC	Sandi Miller 573-761-0376	04/01/03 04/01/03	1	5.5	5.5	4.5	4.5	0.0
C&D Wastewater Entry Level 03-02-103	Macon MoDNR/NERO	Keith Phipps 660-385-2129	04/02/03 05/02/03	10	21.0	8.5	60.0	60.0	6.0
NW SEC MWWC Annual Mtg 03-01-156	St Joseph MWWC	David Williams 816-622-7094	04/03/03 04/23/03	1	5.5	5.0	4.0	4.0	0.0
Backflow Prevention 03-02-167	Macon ERC	Autumn Sweet 800-848-8726	04/08/03 04/10/03	3	22.5	22.5	22.5	22.5	
Lime Use in Water/Wastewater 03-04-038	Ste. Genevieve MWWC	Sandi Miller 513-761-0376	04/08/03 04/08/03	1	6.0	6.0	6.0	6.0	0.0
Environmental Mgmt. Institute 03-03-133	Mexico MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	04/09/03 04/10/03	2	8.0	7.0	7.0	7.0	0.0
Chem Coagulation/Flocculation 03-01-089	Kansas City MARC	John Staples 816-474-4240	04/10/03 04/10/03	1	6.0	1.0	3.0	3.0	0.0
Land Application of Sludge 03-01-097	Lee's Summit MoDNR/NERO	Keith Phipps 660-385-2129	04/14/03 04/14/03	1	2.0	0.0	6.0	6.0	2.0
Intro Wastewater Lab - Part B 03-04-010	Cape Girardeau MoDNR/OAC	Lorene Lindsay 816-797-7753	04/15/03 04/18/03	4	4.0	0.0	30.0	30.0	2.0
Land Application of Sludge 03-01-098	Lee's Summit MoDNR/NERO	Keith Phipps 660-385-2129	04/15/03 04/15/03	1	2.0	0.0	6.0	6.0	2.0
Entry Level Wastewater Trmt 03-05-008	Ozark MoDNR/OAC	Lorene Lindsay 816-797-7753	04/16/03 05/15/03	10	14.0	12.0	65.0	65.0	8.0
SE Sec MWWC Annual Mtg. 03-04-182	Cape Girardeau SE SEC MWWC		04/16/03 04/16/03	1	3.0	2.5	3.5	3.5	0.0
Basic Electricity 03-01-168	Warrensburg ERC	Autumn Sweet 800-848-8726	04/22/03 04/23/03	2	13.0	13.0	13.0	13.0	13.0
Programmable Logic Controllers 03-06-127	KC KS NTT	Linda Barrier 800-922-2820	04/22/03 01/24/03	3	21.0	21.0	21.0	21.0	0.0
Spring Water Class 03-03-110	Jeff City MoDNR/JCRO	Tim Campbell 573-751-2729	04/22/03 06/17/03	9	45.0	34.0	21.0	21.0	0.0

Missouri Department of Natural Resources

Approved Training Courses

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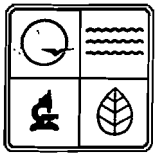
Course Title Course Number	Course Location Sponsored By	Course Coordinator Coord. Phone No.	First/Last Day	Number of Days	Renewal Credit Hours				
					Drinking	Dist	WasteW	CAFO	
Bloodborne Pathogens 03-01-090	Kansas City MARC	John Staples 816-474-4240	04/24/03 04/24/03	1	4.0	4.0	4.0	4.0	
Certification Math Review 03-05-169	Neosho ERC	Autumn Sweet 800-848-8726	05/01/03 05/01/03	1	6.0	6.0	6.0	6.0	
Backflow Prevention 03-06-171	Sullivan ERC	Autumn Sweet 800-848-8726	05/06/03 05/08/03	3	22.5	22.5	22.5	22.5	
Basic Electricity 03-06-170	Farmington ERC	Autumn Sweet 800-848-8726	05/06/03 05/07/03	2	13.0	13.0	13.0	13.0	
Programmable Logic Controllers 03-01-149	Kansas City NTT	Marta Horton 303-957-4397	05/06/03 05/08/03	3	21.0	21.0	21.0	0.0	
Wastewater Lab 03-02-104	Macon MoDNR/NERO	Keith Phipps 660-385-2129	05/12/03 05/21/03	5	9.0	7.0	30.0	3.0	
Backflow Prevention 03-05-172	Neosho ERC	Autumn Sweet 800-848-8726	05/13/03 05/15/03	3	22.5	22.5	22.5	22.5	
Intro Wastewater Lab - Part A 03-05-018	Houston MoDNR/OAC	Lorene Lindsay 816-797-7753	05/13/03 05/16/03	4	8.0	0.0	30.0	6.0	
Trenching Shoring 03-01-091	Kansas City MARC	John Staples 816-474-4240	05/14/03 05/14/03	1	8.0	8.0	8.0	8.0	
Intro Wastewater Lab - Part B 03-03-014	Lake Ozark MoDNR/OAC	Lorene Lindsay 816-797-7753	05/20/03 05/28/03	4	4.0	0.0	30.0	2.0	
Environmental Mgmt. Institute 03-05-134	Lebanon MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	05/21/03 05/22/03	2	8.0	7.0	7.0	0.0	
Entry Level Wastewater Trmt 03-01-006	Gallatin MoDNR/OAC	Lorene Lindsay 816-797-7753	05/28/03 06/26/03	10	14.0	12.0	65.0	8.0	
Lift Stations 03-02-105	Macon MoDNR/NERO	Keith Phipps 660-385-2129	05/28/03 05/28/03	1	2.5	2.5	6.0	6.0	
Lagoons 03-02-106	Macon MoDNR/NERO	Keith Phipps 660-385-2129	05/30/03 05/30/03	1	2.0	0.0	6.0	6.0	
Motor Starters, Contr Devices 03-06-050	Bridgeton Control Tech	Jaime McCorkell 314-739-6060	05/30/03 05/30/03	1	6.5	6.5	6.5	6.5	
National Electrical Code 2002 03-06-152	St Louis NTT	Marta Horton 303-957-4397	06/02/03 06/04/03	3	21.0	21.0	21.0	0.0	
NEC 2002&Grounding&Elec Sys 03-06-150	St Louis NTT	Marta Horton 303-957-4397	06/02/03 06/06/03	5	35.0	35.0	35.0	0.0	
Water Trmt. Short School 03-05-173	Neosho ERC	Autumn Sweet 800-848-8726	06/02/03 06/06/03	5	35.0	35.0	11.5	0.0	
A&B Wastewater Advanced 03-02-107	Macon MoDNR/NERO	Keith Phipps 660-385-2129	06/04/03 06/27/03	10	20.0	20.0	58.0	0.0	
Gmnd&Bonding/Bldg Elec Sys 03-06-154	St Louis NTT	Marta Horton 303-957-4397	06/05/03 06/06/03	2	14.0	14.0	14.0	0.0	
Chemical Safety 03-01-092	Kansas City MARC	John Staples 816-474-4240	06/06/03 06/06/03	1	4.0	4.0	4.0	4.0	
HVAC/Pumping Motor Contr 03-06-054	Bridgeton Control Tech	Jaime McCorkell 314-739-6060	06/06/03 06/06/03	1	6.5	6.5	6.5	6.5	
Distribution Systems 03-05-180	Monett ERC	Autumn Sweet 800-848-8726	06/09/03 06/10/03	2	13.0	13.0	6.0	0.0	
Backflow Prevention 03-01-174	Kansas City ERC	Autumn Sweet 800-848-8726	06/10/03 06/12/03	3	22.5	22.5	22.5	22.5	
Intro Wastewater Lab - Part B 03-01-013	Lee's Summit MoDNR/OAC	Lorene Lindsay 816-797-7753	06/10/03 06/18/03	4	4.0	0.0	30.0	2.0	
Activated Sludge 03-02-108	Macon MoDNR/NERO	Keith Phipps 660-385-2129	06/11/03 06/13/03	2	0.0	0.0	12.0	0.0	
Distribution Systems 03-05-181	Nevada ERC	Autumn Sweet 800-848-8726	06/11/03 06/12/03	2	13.0	13.0	6.0	0.0	
Drinking Water Laboratory 03-01-093	Kansas City MARC	John Staples 816-474-4240	06/12/03 06/12/03	1	6.0	6.0	1.5	1.5	
Wastewater Trmt. Short School 03-05-176	Neosho ERC	Autumn Sweet 800-848-8726	06/16/03 06/20/03	5	11.5	11.5	35.0	0.0	
Pump & Motor Maintenance 03-06-175	Farmington ERC	Autumn Sweet 800-848-8726	06/17/03 06/18/03	2	15.0	15.0	15.0	15.0	
Wastewater Options/Small Sys 03-01-094	Kansas City MARC	John Staples 816-474-4240	06/19/03 06/19/03	1	0.0	0.0	6.0	0.0	

Missouri Department of Natural Resources

Approved Training Courses

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Course Title Course Number	Course Location Sponsored By	Course Coordinator Coord. Phone No.	First/Last Day	Number of Days	Renewal Credit Hours			
					Drinking	Dist	WasteW	CAFC
Backflow Certification 03-04-177	Poplar Bluff ERC	Autumn Sweet 800-848-8726	06/23/03 06/27/03	5	28.0	28.0	28.0	28.0
National Electrical Code 2002 03-01-153	Kansas City NTT	Marta Horton 303-957-4397	06/23/03 06/25/03	3	21.0	21.0	21.0	0.0
NEC 2002&Grounding&Elec Sys 03-01-151	Kansas City NTT	Marta Horton 303-957-4397	06/23/03 06/27/03	5	35.0	35.0	35.0	0.0
Water Lab 03-05-178	Neosho ERC	Autumn Sweet 800-848-8726	06/24/03 06/25/03	2	13.0	10.0	1.0	0.0
NPDES Permits & DMRs 03-02-109	Macon MoDNR/NERO	Keith Phipps 660-385-2129	06/25/03 06/25/03	1	0.0	0.0	6.0	0.0
Certification Math Review 03-05-179	Neosho ERC	Autumn Sweet 800-848-8726	06/26/03 06/26/03	1	6.0	6.0	6.0	6.0
Gmd&Bonding/Bldg Elec Sys 03-01-155	Kansas City NTT	Marta Horton 303-957-4397	06/26/03 06/27/03	2	14.0	14.0	14.0	0.0
Intro Wastewater Lab - Part A 03-06-016	St Louis MoDNR/OAC	Lorene Lindsay 816-797-7753	07/08/03 07/16/03	4	8.0	0.0	30.0	6.0
Entry Level Wastewater Trmt 03-05-009	Nevada MoDNR/OAC	Lorene Lindsay 816-797-7753	07/09/03 08/07/03	10	14.0	12.0	65.0	8.0
Motor Starters, Contr Devices 03-06-051	Bridgeton Control Tech	Jaime McCorkell 314-739-6060	09/05/03 09/05/03	1	6.5	6.5	6.5	6.5
Electrical PM 03-06-055	Bridgeton Control Tech	Jaime McCorkell 314-739-6060	09/12/03 09/12/03	1	6.5	6.5	6.5	6.5
Environmental Mgmt. Institute. 03-06-135	Farmington MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	09/17/03 09/18/03	2	8.0	7.0	7.0	0.0
Environmental Mgmt. Institute 03-02-136	Chillicothe MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	10/22/03 10/23/03	2	8.0	7.0	7.0	0.0
Motor Starters, Contr Devices 03-06-052	Bridgeton Control Tech	Jaime McCorkell 314-739-6060	12/12/03 12/12/03	1	6.5	6.5	6.5	6.5



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